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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,718	01/25/2002	Thomas A. Savard	H0003457	2128

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EXAMINER

PRETLOW, DEMETRIUS R

ART UNIT PAPER NUMBER

2863

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/056,718

Applicant(s)

SAVARD, THOMAS A.

Examiner

Demetrius R. Pretlow

Art Unit

2863

MAX

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-28 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peters et al. in view of Brooks. Peters et al. teach determining a corrected accelerometer output and determining the compensation coefficients using the corrected accelerometer output. Note Peters et al. column 4, lines 9-19.

Peters et al. does not teach estimating bias accumulation from measured accelerometer outputs.

Brooks teach estimating bias accumulation from measured accelerometer outputs. Note Brooks column 8, lines 54-57.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Peters et al. to include the teaching of Brooks because it would help determine errors on up to three axes, with or without the use of an external reference measurement of the local magnetic field. Note Brooks column 2, lines 36-38.

***Allowable Subject Matter***

3. Claims 2-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claims 13-28 are allowed.
5. The primary reason for the allowance of claims 13-17 is the inclusion of the method steps of removing temperature cycle hysteresis through temperature cycling; limiting durations of high acceleration load dwell times, wherein high acceleration is an acceleration of more than 1 g; and determining a corrected accelerometer output to compensate for bias accumulated during the high acceleration load dwell times. It is these steps found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.
6. The primary reason for the allowance of claims 18 and 28 is the inclusion of the method step of estimating bias accumulation at the center point of time,  $t$ , according to claimed equation, where  $a(t_1)$  is measured accelerometer output for a 1g load at a time prior to a beginning of the high acceleration load interval, and  $a(t_2)$  is measured accelerometer output for a 1 g load at a time after an end of the high acceleration load interval; and correcting accelerometer output according to  $a_c = a(t, c) - 1/2 (a(t_2) - a(t_1))$ , where  $a(t_c)$  is measured accelerometer output at the center point of time. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or

suggested by the prior art of record which makes these claims allowable over the prior art.

7. The primary reason for the allowance of claim 19-27 is the inclusion of the limitations of an a rate table controller connected to said computer and configured to run acceleration load profiles on said rate table, the acceleration load profiles stored in said memory of said computer; a temperature controller connected to said computer and configured to run temperature profiles in said chamber, the temperature profiles stored in said memory of said computer; and a device configured to measure output of said accelerometer, said device, said computer configured to receive and store output data from said device, said computer configured to estimate bias accumulation from measured accelerometer outputs, determine corrected accelerometer outputs, and determine compensation coefficients using the corrected accelerometer outputs.

It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Demetrius R. Pretlow whose telephone number is (703) 308-6722. The examiner can normally be reached on Monday - Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow, can be reached at (703) 308-3126. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Demetrius R. Pretlow  
Patent Examiner

*Demetrius Pretlow* 9/28/03

*J Barlow*  
John Barlow  
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Technology Center 2800